

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

Public Safety and Homeland Security)	PS Docket 07-114
Bureau Seeks to Refresh the Record)	
Regarding Service Rules for Wireless)	
Enhanced 911 Phase II Location Accuracy)	
And Reliability)	

**COMMENTS OF
SPRINT NEXTEL CORPORATION**

Sprint Nextel Corporation (“Sprint”) submits these comments in response to the Federal Communications Commission’s (“Commission”) Public Notice (“PN”) released November 6, 2009, in the above docket.¹ Sprint supports the important objective of improving location accuracy for Phase II E911. As the Commission notes, Sprint has voluntarily agreed to meet revised location accuracy benchmarks consistent with those described in the Handset Location Accuracy Proposal filed by APCO, NENA, and Verizon Wireless on August 20, 2008, (the “Handset Location Accuracy Proposal”).² While Sprint recognizes the technical limitations associated with different location solutions, Sprint agrees it is appropriate for the Commission to adopt uniform rules for all wireless carriers.

I. POTENTIAL IMPROVEMENTS TO LOCATION ACCURACY ARE LIMITED UNDER CURRENT TECHNOLOGY

As outlined in Comments filed in this docket on October 6, 2008, Sprint is continually striving to improve the accuracy of its E911 Phase II location data and has taken numerous

¹ Public Safety and Homeland Security Bureau Seeks to Refresh the Record Regarding Service Rules for Wireless Enhanced 911 Phase II Location Accuracy and Reliability, DA 09-2397, PS Docket 07-114 (rel. Nov. 6, 2009).

² *In the Matter of Sprint Nextel Corporation and Clearwire Corporation, Applications For Consent to Transfer Control of Licenses, Leases, and Authorizations, Memorandum Opinion and Order*, FCC 08-259, par. 111 (Rel. Nov. 7, 2008).

actions to further this objective.³ Carriers' efforts to affect change in location accuracy are constrained, however, by physical realities such as terrain obstructions and by available technology. Although Sprint has made significant progress toward improving the location accuracy of its devices, location accuracy in the foreseeable future will remain limited due to these factors.

Location accuracy is determined by both the number of available data points (whether they are satellites or cell sites) and the quality of each of those data points (whether line of sight is direct or indirect, as reflection and other factors resulting from indirect line of sight make a handset appear farther or closer than its actual location). Terrain obstructions between a handset and the data points, whether natural or manmade, can considerably reduce accuracy – either by reducing the number of available data points and/or by reducing their quality. Different geographic areas have different levels of terrain obstructions making it difficult (and in some cases, impossible) to meet identical location accuracy benchmarks in all areas.

For handset-based systems, any environment that reduces the ability of the handset to receive signals from satellites will reduce the number of data points available to calculate location. By limiting the geographic area over which performance can be measured, the likelihood increases that a specific geographic area will contain a significant percentage of challenging locations. Thus, the smaller the geographic area used for measurement, the more difficult it will be to meet any given location accuracy standard. In addition, averaging accuracy over an area handled by a Public Safety Answering Point (“PSAP”) would pose significant challenges for carriers given the varied nature of PSAP boundaries.

³ See Comments of Sprint Nextel, PS Docket 07-114 (filed October 6, 2008).

The public safety community has acknowledged the limitations faced by carriers due to geographical factors and system deployment differences. In an *Ex Parte* letter submitted to the Commission on July 14, 2008, APCO and NENA jointly endorsed the Commission's existing accuracy metrics, but stated, "We recognize that satisfying this requirement at a PSAP or county level is especially difficult for many carriers due to variations in geography and system deployments."⁴ APCO expressed its willingness to accept accuracy measurements at the county level, stating: "In part, this reflects the changes that are occurring in the PSAP community, as some communities are consolidating 9-1-1 centers, and others are changing PSAP geographic boundaries to match county boundaries. Counties, unlike PSAP service areas, also reflect a stable geographic area and would be more appropriate regulatory criteria."⁵ APCO and NENA made a subsequent filing, along with Verizon Wireless, endorsing the Handset Location Accuracy Proposal.

The Handset Location Accuracy Proposal recognizes the technical issues faced by carriers explained herein and seeks to balance these limitations with the needs of the public safety community. Under the Handset Location Accuracy Proposal, location accuracy would be measured on the county level and the 150-meter location accuracy requirement would be adjusted to require that two years after the new rules are adopted, 80 percent of all Phase II calls in each county must be accurate to within 150 meters and, six years later, 90 percent of all Phase II calls in each county must be accurate to within 150 meters. Carriers will still need to make significant improvements to meet the new location accuracy requirements. Setting the accuracy standard at the county level will impose significant testing costs and require substantial time to

⁴ APCO/NENA *Ex Parte* filing, PS Docket 07-114, July 14, 2008.

⁵ *Id.*

complete. The proposal, however, strikes a balance between the needs of the public safety community and the capabilities of carriers.

A carrier's ability to improve location accuracy is also limited by available technology. Notably, Sprint is not aware of any significant technological advancements over the last twelve months that would help improve E911 location accuracy any more than has already been developed. The Commission must carefully consider the adoption of new rules to avoid the "cart before the horse" scenario where carriers are expected to implement technological solutions that have yet to be invented or made widely available to carriers.

II. SPRINT IS COMMITTED TO FULFILLING THE LOCATION ACCURACY BENCHMARKS TO WHICH IT HAS AGREED

Sprint has expressed on multiple occasions its support for the Handset Location Accuracy Proposal that APCO, NENA and Verizon Wireless submitted jointly on August 20, 2008.⁶ Sprint continues to believe that the Handset Location Accuracy Proposal is an appropriate framework for addressing the needs of the public safety community while also recognizing the limitations of location accuracy attributable to factors such as geography.

As a condition to the Commission's approval of the transfer of control applications filed by Clearwire and Sprint, Sprint voluntarily agreed to meet benchmarks that are based on the Handset Location Accuracy Proposal. Specifically, Sprint agreed that, on a county-by-county basis, and with certain exclusions, two years after consummation of the New Clearwire transaction, 67% of Phase II calls will be accurate to within 50 meters in all counties and 80% of

⁶ See Comments of Sprint Nextel, PS Docket 07-114 (filed October 6, 2008); Letter from Anna Gomez, Sprint Nextel Corporation, to Chairman Kevin Martin, PS Docket No. 07-114 (Aug. 21, 2008); Letter from Charles McKee, Sprint Nextel Corporation, to Ms. Marlene Dortch, FCC Secretary, PS Docket No. 07-114 (Sept. 24, 2008).

Phase II calls will be accurate to within 150 meters in all counties.⁷ Sprint also agreed that six years later, 90% of Phase II calls will be accurate to within 150 meters in all counties.⁸

As with the Handset Location Accuracy Proposal, the benchmarks to which Sprint agreed measure accuracy on a county basis. Sprint remains committed to achieving these benchmarks, and recognizes the important public safety objectives that will be achieved. Sprint supports the goal of improving location accuracy so that public safety entities receive the meaningful location information they need to act expeditiously and effectively.

Sprint urges the Commission to develop location accuracy rules that will apply to all wireless carriers. To date the Commission has adopted new accuracy requirements for two wireless carriers, Sprint and Verizon Wireless, modeled on the Handset Location Accuracy Proposal. It is, therefore, timely for the Commission to work toward developing regulations to apply to the industry as a whole. Sprint asserts the Handset Location Accuracy Proposal is an appropriate starting point for crafting a set of revised location accuracy rules and guidelines that can be applied in a fair and reasonable manner across the wireless industry in a timely manner.

III. THE COMMISSION SHOULD REQUIRE THE OWNERS OF E911 INFRASTRUCTURE TO PASS CONFIDENCE AND UNCERTAINTY DATA UPON PSAP REQUEST

The Commission previously requested information in this docket regarding whether it should “require the provision of confidence and uncertainty data.”⁹ As Sprint commented previously, it is willing and able to transmit this data on a per-call basis to any PSAP upon

⁷ *In the Matter of Sprint Nextel Corporation and Clearwire Corporation, Applications For Consent to Transfer Control of Licenses, Leases, and Authorizations, Memorandum Opinion and Order*, FCC 08-259, par. 111 (Rel. Nov. 7, 2008).

⁸ *Id.*

⁹ *Wireless E911 Location Accuracy Requirements*, 73 Fed. Reg. 55473 (Sept. 25, 2008).

request and does so today.¹⁰ Sprint argues that transmission of confidence and uncertainty data is more useful to 911 responders than additional location accuracy testing because, as APCO and NENA have observed, such per-call data would “greatly improve the ability of PSAPs to utilize accuracy data and manage their 9-1-1 calls.”¹¹ Therefore, Sprint supports the adoption of regulations requiring that such confidence and uncertainty data be passed to PSAPs upon request.

IV. CONCLUSION

For the foregoing reasons, Sprint respectfully requests that the Commission take actions in this docket consistent with its positions discussed above.

Respectfully submitted,

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¹⁰ See Comments of Sprint Nextel, PS Docket 07-114 (filed October 6, 2008).

¹¹ APCO/NENA Written Ex Parte, PS Docket No. 07-114, at 2 (Sept. 9, 2008).